

Amendment and Response

Applicant: Leo W. Spychalla

Serial No.: 10/725,259

Filed: December 1, 2003

Docket No.: 10413US01/1201.191.101

Title: DATA STORAGE CARTRIDGE WITH HARD DRIVE AND ALIGNMENT FEATURE

REMARKS

The following remarks are made in response to the Non-Final Office Action mailed May 16, 2006. In that Office Action, the drawings were objected to for failing to show the features of claim 16, and claim 16 was objected to for reciting features that were not shown in the drawings. Claims 1-7, 13, 14, 18, 21, and 24 were rejected under 35 U.S.C. §102(b) as being anticipated by Astier, U.S. Patent No. 5,788,211 ("Astier"). Claims 8-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Astier in view of Grois et al., U.S. Patent No. 6,331,079 ("Grois"), claims 12 and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Astier, and claim 15 was rejected under 35 U.S.C. §103(a) as being unpatentable over Astier in view of Crockett, U.S. Patent No. 6,061,231 ("Crockett"). Claim 16 was rejected under 35 U.S.C. §103(a) as being unpatentable over Astier in view of Crockett, and further in view of Grois, and claims 22 and 23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Astier in view of Lu et al., U.S. Patent No. 6,317,317 ("Lu").

With this Response, claims 1, 13, 16, and 18 have been amended. Claims 1-18 and 21-24 remain pending in the application and are presented for reconsideration and allowance.

Claim and Drawing Objections

In the Office Action, claim 16 is objected to for reciting that "the attachment pillar, the alignment post, and the alignment rib have a different geometry" when the alignment post (44) and alignment pillar (50) are cited as being illustrated with the same geometry (i.e. each is circular in nature). The drawings are also objected to for failing to show the features recited in claim 16. With this Amendment, Applicant has amended claim 16 to recite that "the attachment pillar and the alignment post each have a different geometry than the alignment rib," which is consistent with the Office Action which states on page 3 that the rib is illustrated as having a geometry that is different from the pillar and the post. Accordingly, Applicant respectfully requests that the objection to the drawings and to claim 16 be withdrawn.¹

¹ Notably, the amendment to claim 16 has been provided to advance prosecution and is not an admission that the figures fail to show the features of claim 16 as previously presented.

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35 U.S.C. §102 Rejections**Claims 1-7 and 21**

Claim 1 was rejected under 35 U.S.C. §102(b) as being anticipated by Astier. Amended claim 1 recites a data storage cartridge including a housing, a hard drive, and an attachment device. The housing defines an interior cavity, an access window, and at least one alignment feature positioned within the interior cavity. The housing includes a polymeric material. The hard drive is maintained within the interior cavity and has at least one electrical connection point. The at least one alignment feature is configured to interact with the hard drive to at least partially align the at least one electrical connection point relative to the access window. The attachment device is separate from the housing and is inserted through one of the at least one alignment features to at least partially secure the hard drive within the housing. Astier fails to disclose or otherwise suggest these features, for example, the attachment device separate from the housing.

More specifically, Astier discloses a fixing piece for a data storage drive that is “one of one-piece plastics” for affixing the data storage drive to a chassis plate. (Abstract). The fixing piece 15 of Astier includes integral attachment elements 23 that are configured to interface with standard holes 12 formed in the data storage drive 12 to restrain movement of the drive 12 relative to the fixing piece 15 (column 3, lines 12-17). In this manner, Astier provides a single fixing piece 15 that is independently configured to interface with the drive 12 to fix the position of the drive 12 relative to the piece 15 without the use of any auxiliary attachment means. Accordingly, Astier fails to disclose or otherwise suggest “an attachment device separate from the housing and inserted through one of the at least one alignment features to at least partially secure the hard drive within the housing” as recited in amended, claim 1.

Not only does Astier fail to teach an attachment device as recited in amended claim 1, but Astier actually teaches against any such attachment device. In particular, Astier states that use of intermediate fixing members (i.e., members other than the fixing piece 15, the drive 12, and the chassis plate 27) as being a drawback (column 1, lines 31-41). In fact, it is “an object” of Astier “to provide a fixing piece for simplifying the attachment of a data-storage drive and similar units to a support structure” (column 1, lines 4-44). In view of the objective of Astier, Astier repeatedly stresses that the fixing piece 15 (or 30) is of one-piece construction (see, e.g., column

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1, lines 47-50; column 2, lines 62-65). With this in mind, modifying Astier to include an attachment device separate from the fixing piece 15 would render Astier unsatisfactory for its intended purpose of providing a simple one-piece means for coupling the drive 12 to the chassis plate 27. Since such modification would render Astier unsatisfactory for its intended purpose, there is no suggestion or motivation to make the proposed modification. *See* MPEP §2143.01 V; *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Therefore, there is no suggestion to combine Astier with any other reference to include an attachment device as recited in independent claim 1. Rather, Astier teaches away from any such modification.

Moreover, even if, for argumentative purposes only, Astier was considered to not teach against an attachment device, Astier also fails to suggest the desirability of the resultant combination. "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." *See* MPEP §2143.01 III; *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Accordingly, since neither Astier nor any of the other references cited in the Office action provide a reason for or suggest a desire for modifying the fixing piece of Astier, there is no suggestion to combine Astier with any other reference to include an attachment device as recited in amended claim 1.

For at least the above-described reasons, amended, independent claim 1 is believed to be allowable over the cited references and withdrawal of the associated rejections is respectfully requested.

Claims 2-7 and 21 were also rejected under 35 U.S.C. §102(b) as being anticipated by Astier. Claims 2-7 and 21 each depend from amended, independent claim 1, which as described above is believed to be allowable over Astier. Therefore, claims 2-7 and 21 are also believed to be allowable, and withdrawal of the rejections of claims 2-7 and 21 is respectfully requested.

In addition, claim 21 recites additional patentably distinct subject matter. In particular, claim 21 recites that "the housing includes a first planar member defining the access window, and the at least one alignment feature extends from the first planar member to interact with the hard drive." Astier fails to teach such features. More specifically, the Office Action considers the main section 16 of Astier to be the first planar member of claim 21. However, main section

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16 does not define the access window. Rather, main section 1 only defines a linear edge, which can hardly be considered a window. Elsewhere in the Office Action, the window is described as being collectively defined by sections 16-18 (See, e.g., page 4, lined 2-3 and page 5, lines 14-15), not by main section 16. Furthermore, when sections 16-18 are manipulated to define an open end of flexible piece 15, the three sections 16-18 are not planar. Accordingly, Astier fails to disclose a planar member defining the access window.

Moreover, Astier does not disclose that the at least one alignment feature extends from the planar member that defines the window as recited in dependent claim 21. For example, even if Astier disclosed or suggested a planar member extending between sections 16-18 to form an access window, which Applicant avers it does not (in particular, such a member would unnecessarily complicate the desired simplified design of Astier), Astier would not teach an alignment feature extending from such a member. Rather, Astier teaches that projections 23 are configured to interface with standard holes in the drive 10, which are located on the side and top faces 13 and 14 of the drive 10 (column 1, lines 11-24; Figure 1) extending perpendicular to any such plane that would define an access window. In this manner, even if Astier included such a planar, window-defining member, the projections 23 would extend from corresponding sides of fixing piece 15 rather than any end window defining member. Further, it would not be obvious to otherwise modify Astier to so include such an alignment feature as Astier does not disclose a standardized feature of drive 10 configured to receive any such feature. For at least these reasons, claim 21 presents further patentable subject matter that additionally supports the allowance of claim 21.

Claims 13 and 14

Claims 13 and 14 were rejected under 35 U.S.C. §102(b) as being anticipated by Astier. Independent claim 13 relates to a data storage cartridge comprising a housing and a hard drive. The housing includes a polymeric material and "a first major and planar member that defines at least three sides of an access window." As described above with respect to claim 21, Astier fails to teach such features. More specifically, the main section 16 of the fixing piece 15 of Astier, and any other section 17 or 18 of the fixing piece 15, only defines a single linear edge of an end

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opening. Rather, the end opening of Astier is collectively defined by sections 16-18 (see, e.g., the Office Action, page 4, lined 2-3 and page 5, lines 14-15), which are clearly not planar when folded to define the end opening. Therefore, Astier does not disclose a planar member that defines at least three sides of an access window as recited by amended claim 13. Accordingly, claim 13 is believed to be allowable over Astier, and Applicant respectfully requests that the associated rejection be withdrawn.

Claim 14 depends from amended, independent claim 13, which, as described above, is believed to be allowable. Therefore, claim 14 is also believed to be allowable and, accordingly, withdrawal of the rejection of claim 14 is respectfully requested.

Claims 18 and 24

Claims 18 and 24 were rejected under 35 U.S.C. §102(b) as being anticipated by Astier. Amended, independent claim 18 relates to a method of assembling a hard drive to a housing of a data storage cartridge. The method included providing a data storage cartridge and "enclosing the hard drive within the housing." The data storage cartridge is configured for use in an automated library system. Astier fails to disclose or otherwise suggest such features.

For example, Astier is specifically configured for "fixing a data-storage drive unit" on a support structure such as in a personal computer (see, e.g., Abstract; column 1, lines 11-13). In this manner, Astier is configured for relatively permanent fixation to chassis plate 27 rather than for use in an automated library system as recited in claim 18. Furthermore, the drive 10 of Astier is not enclosed within the housing. Rather, fixing piece 15 only covers approximately three of six sides of drive 10. This construction of Astier is specifically configured to simplify coupling of drive 10 to chassis plate 27. As such, Astier does not provide any motivation or suggestion to modify the single fixing piece 15 to "enclose" drive 10 as such enclosure would only complicate the construction, which is in direct contrast to the stated purpose of Astier.

In view of the above, Astier fails to disclose or otherwise suggest the features of claim 18. Consequently, the Applicant respectfully requests the rejection of claim 18 be withdrawn.

Claim 24 depends from amended, independent claim 18, which as described above is believed to be allowable. In addition, claim 24 is believed to present additional patentably

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distinct subject matter. In particular, Astier fails to disclose or otherwise suggest "placing the at least one electrical connection point in a position to be transversely contacted by a cartridge drive through the access window" as recited in claim 24. Although as noted in the Office Action, the opening collectively defined by sections 16-18 provides access to the drive 10, the drive 10 does not have an electrical connection positioned to be transversely contacted through the opening.

Although the electrical connections of Astier are not described or illustrated in any significant detail, the drive 10 is generally pictured as having standard plug connections on an end thereof that are generally configured to be pin connected in parallel (i.e., end to end). This is in direct contrast to positioning an electrical contact point to be "transversely" contacted as recited in claim 24. For instance, one example of an electrical connection point positioned to be transversely contacted is collectively shown in Figures 4 and 8 and generally described, for example, on page 18, lines 12-16, of the present application. More specifically, the emulator connector 146 transversely contacts the electrical connection points 112 of the hard drive 14 through the access window 22, in other words, the emulator connector 146 contacts the electrical connection points 112 at a right angle. See, e.g., *Merriam-Webster Online Dictionary*, <http://www.m-w.com/dictionary/transverse>, which defines "transverse" as "made at right angles to the anterior-posterior axis of the body." Not only does Astier fail to show positioning for transverse contact, but the positioning of the opening relative to the electrical connections of drive 10 and, more particularly, relative to chassis plate 27, which extends beyond the end wall of drive 10, does not allow transverse contact to be made with the electrical connectors of Astier. For at least the above-described reasons, claim 24 is also believed to be allowable and, accordingly, withdrawal of the rejections of claim 24 is respectfully requested.

35 U.S.C. §103 Rejections**Claims 8, 10-12, 17, and 22-23**

Claims 8 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Astier in view of Grois. Each of claims 8, 10, and 11 depends from independent claim 1, which, as described above, includes features not taught or otherwise suggested by Astier. Grois fails to

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alter this analysis as Grois does not alter Astier's teachings against a combination that would result in the features recited in claim 1. Further, Grois does not even relate to a hard drive to otherwise remedy the failure of Astier to include the attachment device for at least partially securing a hard drive within the housing as recite in claim 1. As a result, claims 8 and 10-11, which incorporate the features of claim 1, also are not taught or otherwise suggested by the cited references. Therefore, Applicant respectfully requests the allowance of claims 8 and 10-11.

Claims 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Astier. Each of claims 12 and 17 depends from independent claim 1, which, as described above, includes features not taught or otherwise suggested by Astier. Consequently, Astier also fails to teach or suggest the limitations of claims 12 and 17. Accordingly, withdrawal of the rejections of claims 12 and 17 is respectfully requested.

Claim 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Astier in view of Lu. Claims 22 and 23 each depend from independent claim 1, which, as described above, includes features not taught or otherwise suggested by Astier. Lu fails to alter this analysis. Rather, Lu also recites the undesirability of screws or other attachment devices to secure a hard disc within a cartridge. More specifically, screws are described in Lu as complicating the assembly procedure (column 1, lines 19-28). As such, Lu discloses features 362 and 36 formed integrally with the housing to receive the hard disc 20 without utilizing any separate attachment device. In this manner, Lu fails to remedy the deficiencies of Astier with regard to claim 1.

In addition, there is no suggestion to modify the fixing piece 15 of Astier to include a base and a cover as recited in claims 22 and 23. Rather, Astier emphasizes the importance of the single fixing piece 15 and of simplicity of the connection (see, e.g., column 1, lines 47-50; column 2, lines 62-65), which discourages addition of extra components not otherwise necessary for coupling the drive 10 with the chassis plate 27. In fact, since the drive 10 is secured to the chassis plate 27 within a computer and is not generally subjected to insertion cycles, Astier makes no reference to a desire for extra protection or for prevention of electromagnetic waves interfering with the drive 10. As a result, Astier teaches away from forming fixing piece 15 as any more than a single member, such as a cover and a base as recited in claims 22 and 23.

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Consequently, the features of claims 22 and 23 further support the allowance of claims 22 and 23 over the cited references, and Applicant respectfully requests the withdrawal of the associated rejections.

Claim 9

Claim 9 is rejected under 35 U.S.C. §103(a) as being unpatentable over Astier in view of Grois. Claim 9 relates to a data storage cartridge including a housing and a hard drive. The housing includes an alignment rib defining a substantially planar surface extending in a direction substantially perpendicular to the access window. The hard drive includes an alignment slot configured to receive the alignment rib. The cited references fail to teach or otherwise suggest these features.

In particular, Astier is specifically configured to solely utilize standard fixing holes 12 on the sides of a hard disk ("three along each side face 13 and four in the top face 14 of the drive") (column 1, lines 11-17). None of the standard fixing holes 12 described in Astier extend in a direction substantially perpendicular to the access window, which is described in the Office Action as being collectively defined by section 16-18. As such, Astier does not suggest modification of the fixing features/protrusions 23 to have a position or geometry that does not align with the standardized holes 12. As a result, there is no motivation to combine Astier with the teachings of Grois, which generally provide a different means for coupling and is not even related to hard drive attachment to a chassis plate 27.

Since "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination" (MPEP §2143.01 III; *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)) and since the prior art itself provides no motivation to combine the cited references, the features of claim 9 are not obvious in view of Astier and Grois. Accordingly, since neither Astier nor any of the other references cited in the Office Action provide a reason for or suggest a desire for modifying the fixing features of the piece 15 of Astier, there is no suggestion to combine Astier with any other reference to include an alignment rib as recited in claim 9. Rather, any suggestion to combine the cited references comes from the present application,

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which is impermissible hindsight. *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990), *reh'g denied*, 1990 U.S. App. LEXIS 19971 (Fed. Cir. 1990).

For at least these reasons, claim 9 is believed to be allowable over Astier in view of Grois, and the associated rejection is respectfully requested to be withdrawn.

Claims 15-16

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Astier in view of Crockett. Claim 15 depends from claim 13, which as described above is believed to be allowable. For similar reasons, claim 15 is also believed to be allowable. Therefore, withdrawal of the rejection of claim 15 is respectfully requested.

In addition, claim 15 additionally recites a passage extending through an attachment pillar, and an attachment device inserted through the passage and into the housing. As described with respect to claim 1, Astier teaches against modification to include any attachment means or to otherwise destroy the single piece nature of the fixing piece 15. Since Astier teaches against any such modification, Astier teaches against combination with Crockett as recited in the Office Action. Consequently, claim 15 is believed to be allowable over the cited references. As a result, the Applicant respectfully requests that the rejection of claim 15 be withdrawn.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Astier in view of Crockett, and further in view of Grois. Claim 16 depends from claim 15 that depends from claim 1 where each of claims 1 and 15 are believed to be allowable for reasons described above. As a result, claim 16 is also believed to be allowable, and Applicant requests that the rejection of claim 16 be withdrawn.

CONCLUSION

In view of the above, Applicant respectfully submits that pending claims 1-18 and 21-24 are in a form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-18 and 21-24 is respectfully requested.

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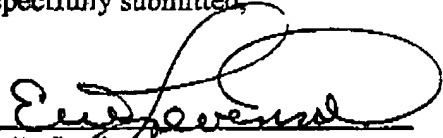
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No fees are required under 37 C.F.R. 1.16(b)(c). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 09-0069.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Respectfully submitted,

Date: 8/16/06
EDL:JMS:hsf


Eric D. Levinson
Reg. No. 35,814

Imation Corp. Legal Affairs
P.O. Box 64898
St. Paul, MN 55164-0898
Telephone: (651) 704-3604
Facsimile: (651) 704-5951